

From: David Good
To: Karl Simon; Janet Cohen; Dan Harrison; Linc Wehrly
Cc: Bruce Sdunek; Vincent Mazaitis; Stephen Healy
Subject: Fw: Gasoline Particulate Testing - test results from 1st cert vehicle tested on 1/19/07
Date: 01/22/2007 11:26 AM

Karl & all,

Here are the preliminary PM results (without DFs applied) for the 2007 Audi S8 with 5.2-liter gasoline direct injection engine. PM levels were approx 50% of the FTP PM standard and approx 10% of the SFTP PM standard, as follows:

Vehicle	Stds	fuel	FTP	Hwy	US06	Composit US06 without DFs(.72FTP + .28US06)
Audi S8	Bin5	Gasoline				
EPA data:			.0052 g/mi	.001g/mi	.0092 g/mi	.0063
mfr data:			.0023	NA	.0250	.0087
Bin 5 Stds			.01 g/mi	NA	NA	.07 (for both 4K and 120K)

Note: For SFTP testing, although Audi S8 models have vehicle has air conditioning, Audi didn't measure PM on their SC03 test. Therefore, I used the non-A/C composite weighting to calculate SFTP values. [The composite weighting for A/C equipped vehicles is (.35FTP+.28US06+.37SC03).]

The Audi S8 test vehicle had PM levels which were approx 3 to 5 times higher than the recently tested 2007 Mercedes diesel-fueled E320 BlueTec. Here's the BlueTech data for comparison:

Vehicle	Stds	fuel	FTP	Hwy	US06	Composit US06 without DFs(.72FTP + .28US06)
BluTec	Bin8	Diesel				
EPA data			.00091 g/mi	NA	PM not measured on EPA US06 test	
(and mfr data not in cert application)						
EPA retest			.00115g/mi	NA		
Bin8 Stds			.02 g/mi	NA	NA	.07 (for both 4K and 120K)

LOD says that although the data are preliminary---the PM values are not likely to change. [Thanks, Vince for folowing the testing and tracking down the data.]

Regards

----- Forwarded by David Good/AA/USEPA/US on 01/22/2007 09:33 AM -----

David
Good/AA/USEPA/US
EPA-OAR,OTAQ,CISD
Sent by: David Good

To: ks
cc: Janet Cohen/AA/USEPA/US@EPA, Dan Harrison/AA/USEPA/US@EPA, Linc Wehrly/AA/USEPA/US@EPA

Received Date:
01/17/2007 05:07 PM
Transmission Date:
01/17/2007 05:07:17 PM

Subject: Fw: Gasoline Particulate Testing - 1st vehicle testing on 1/18/07

Karl,

The first gasoline particulate vehicle is scheduled to be tested at EPA tomorrow. LOD has done some prelim testing to get the site ready over the last couple weeks. The vehicle is a 2007 Audi S8 model equipped with a 5.2-liter V-10 engine with direct injection (also described on page 22-24 of the January 2007 SAE magazine). As with all gasoline direct injection vehicles certified to date, it's stoichiometric engine (not a lean burn engine) which picks up a 10-15% fuel economy benefit.

The PM level of this gasoline vehicle is several times higher than the 2007 Mercedes diesel E320 Bluetech we recently certified.

I have a list of direct injected engines in my hybrid/new technology spread sheet which I emailed you on 12/29/06 or so. I'll update it and send you a revised copy. One which is missing from my spread sheet is the 2007 GM 2.0-liter turbocharged direct injected engine which comes in the Saturn Sky Red Line and Pontiac Solstice GXP (small two seater sports cars). These models were also described in the January 2007 SAE magazine, page 16. GM is adding this engine to the 2008 HHR----which we intend to test at EPA for PM later this spring.

Regards

----- Forwarded by David Good/AA/USEPA/US on 01/17/2007 04:44 PM -----

**David
Good/AA/USEPA/US**
EPA-OAR,OTAQ,CISD
Sent by: David Good

Received Date:
12/19/2006 04:55 PM
Transmission Date:
12/19/2006 04:55:19 PM

To daveb, benh, Maria Peralta/AA/USEPA/US
cc Bruce Sdunek/AA/USEPA/US@EPA, Dan
Harrison/AA/USEPA/US@EPA, Linc
Wehrly/AA/USEPA/US@EPA, Stephen
Healy/AA/USEPA/US@EPA, Peter
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Subject Gasoline Particulate Testing - Status

Maria & all,

Audi certification vehicle 7385-DAQ is currently scheduled for testing on Thurs 1/18/07 (on dyno 329 measuring particulates). This is the long awaited Audi S8 model equipped with a V-10 gasoline direct injection (GDI) engine. It was originally scheduled for gasoline PM testing in October---and was delayed by VW.

Dan----Maria says that they should be ready to test gasoline PM in mid to late January---so this test date will probably work fine. LOD decided to use a different tunnel (not the diesel tunnel) which should help insure that PM will not be influenced by previous diesel tests. [VW/Audi indicated that the vehicle is supposed to arrive in the U.S. over the holidays.]

Maria & Dave----Audi PM levels were .0023 g/mi (FTP) and .0250 g/mi (US06).

Regards